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(NASA Only)

Subject: NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping

Responsible Office: Office of Safety and Mission Assurance

| TOC | Preface | Chapter1 | Chapter2 | Chapter3 | Chapter4 | Chapter5 | Chapter6 | Chapter7 |
Chapter8 | Chapter9 | AppendixA | AppendixB | AppendixC | AppendixD | AppendixE |
AppendixF | AppendixG | AppendixH | AppendixI | AppendixJ | ALL |

# **Chapter 7. Requirements for Commercial Launch Mishap and Close Call Investigations**

### 7.1 Introduction

This chapter provides specific requirements on mishaps and close calls that occur during commercial International Space Station resupply programs or commercial crew programs where NASA obtains support under a Space Act Agreement (SAA) or Cooperative Research and Development Agreements (Appendix J, reference J.3). Emphasis in this chapter is given to MPCPs that support such SAA per memorandums of agreement (MOA) where the various parties to the agreements define responsivities including responsibilities for notifying, investigating, and reporting on mishaps and close calls.

## 7.2 Applicable NASA Policy Directives (NPDs) and NASA Advisory Implementing Instructions (NAIIs) That Address Commercial Launch

- 7.2.1 NPD 1050.1, Authority to Enter into Space Act Agreement.
- 7.2.2 NAII 1050.1, Space Act Agreement Guide.
- 7.2.3 NAII 1050.2, Authority to Enter into Cooperative Research and Development Agreements.
- 7.2.4 NAII 1050.3, NASA Partnerships Guide.
- 7.2.5 Mishap Preparedness and Contingency Plan (MPCP) for International Space Station (ISS) SSP 50190, Commercial Resupply Services (CRS) SSP 50190 Annex A and Commercial Crew Program (CCP) CCT-PLN-1010.

## 7.3 What to Expect When Supporting a Commercial Program/Project Mishap or Close Call

- 7.3.1 Per the reference provided in 7.2.1, support for all parties supporting an SAA mishap or close call will depend greatly on which party, defined by the MOA, has operational control of the operation. This determination of operational control should be made with support of NASA legal counsel and documented in the Project/Program MOA.
- 7.3.2 NASA Program/Project Managers entering into an SAA with commercial partners shall define all phases of the

project (e.g., ground transport, pre-launch, launch, orbit, cruise, de-orbit, recovery, and so on).

- 7.3.3 For any phase of a commercial Program/Project that NASA legal advises as a NASA operational responsibility, the CD or Program/Project Manager shall accomplish the mishap investigation in accordance with this NPR.
- 7.3.4 The level of NASA involvement on an SAA mishap or close call investigation will vary but should always be documented in the Program/Project SAA MOA. NASA may stand up an independent review team. As per the reference provided in 7.2.2, it is recommended to use the "Standard Clause" in NAII 1050.1 in the section for "Investigations of Close Calls, Mishaps, and Mission Failures (Sample Clause)."
- 7.3.5 For NASA to protect its own personnel and resources, the following standard clause should be added into all SAA and Statement of Work (SOW) documents:

"NASA may investigate any NASA mishaps or close calls that involve NASA personnel, equipment, or property that occur in the performance of this contract. The contractor or partner shall provide personnel support and data, as necessary, to support a NASA investigation."

#### 7.4 MPCP Guidance

NPR 8621.1D -- Chapter7

- 7.4.1 MPCPs for commercial launch should address coordination and cooperation actions to be taken by all parties to the SAA in an MOA. Such actions should include:
- a. Responsibility for mishap or close call notification for various phases and locations of the Program/Project based on NASA legal determination of operational responsibility.
- b. IRT personnel and responsivity.
- c. IA and investigation support selection.

## 7.5 Background and Purpose

Commonality of launch vehicles, launch vehicle systems, components, and launch range safety systems exists for launches conducted under launch licenses issued by the Federal Aviation Administration (FAA) and launches conducted by and for both the United States Air Force (USAF) and the National Aeronautics and Space Administration (NASA). The FAA, USAF, and NASA, therefore, require timely knowledge of the facts and circumstances of space launch accidents. In accordance with the Quad Agency Working Group Charter between the NTSB and the FAA Associate Administrator for Commercial Space Transportation (AST), the NTSB may lead investigations of certain commercial space launch accidents. This Quad Agency Working Group Charter and the NTSB-AST agreement establish the relationship between the NTSB, USAF, NASA, and FAA (the parties) during space launch accidents and guide the parties' exchange of accident information and participation in an accident investigation.

## 7.6 Investigations

- 7.6.1 The parties agree that either the FAA Office of Commercial Space Transportation or NTSB will lead investigations of FAA-licensed commercial space launch accidents, pursuant to terms of the NTSB-AST agreement, and that the USAF will lead investigations of accidents involving USAF certified launches, and NASA will lead investigations of accidents involving NASA-certified launches through the Launch Services Program.
- 7.6.2 In the event the NTSB leads an investigation of a commercial space accident in accordance with the NTSB-AST agreement, the NTSB will permit upon request of the USAF and/or NASA, appropriate USAF and/or NASA personnel to participate as "Official Observers" to the NTSB investigation. USAF and/or NASA may also be offered "Party Status" to a NTSB investigation, in accordance with the provisions of Investigation Procedures, 49 CFR pt. 831 in appropriate circumstances.
- 7.6.3 Personnel observing or participating in an investigation will be under the control and direction of the lead agency's chief investigator (e.g., NTSB "Investigator-In-Charge," FAA "Investigator-In-Charge," or USAF "Safety Investigation Board President," or NASA "Mishap Investigation Board Chair"). All such personnel will follow the lead agency's rules regarding the handling or release of information or other evidence collected during an investigation.

## 7.7 Confidential Nature of NTSB Accident Investigations

The USAF or Center or Program/Project personnel shall treat all NTSB investigation data, information, documents or other material obtained in the course of an accident investigation, led by the NTSB, as confidential (not in the

classified sense, but rather, in the sense that it is subject to claim of governmental and/or other privilege) and not disclosed in any manner without the written consent of the NTSB Investigator-in-Charge. This restriction also applies to all accident investigation work performed by the USAF and/or NASA personnel in support of an investigation led by the NTSB, and any such information or documents will be considered the confidential work product of the NTSB. In addition, any FOIA request, subpoena, or other request for such information that is directed to the USAF or NASA will be referred to the NTSB for resolution.

## 7.8 Confidential Nature of USAF Safety Investigations

In a USAF led investigation of space launch accidents or mishaps, the NTSB (if they participate), NASA, and the FAA agree to use their own rules similar to the rules in DoD and USAF instructions on safeguarding safety information protected by the military safety privilege; DoDI 6055.7, Accident Investigation, Reporting, and Record Keeping and AFI 91-204, Safety Investigation and Reports. Information collected by or for a USAF safety investigation may only be released to the NTSB, NASA or FAA during the investigation by the safety board president with the consent of the convening authority chief of safety. If USAF safety investigators discover a critical safety concern applicable to commercial launches, that information will be provided to the FAA, NTSB and NASA in accordance with AFI 91-204. Any FOIA request, subpoena, or other request for safety information protected by the military safety privilege that is directed to FAA, NASA or NTSB personnel will be referred to the USAF for resolution.

### 7.9 Confidential Nature of NASA Safety Investigations

In a NASA led investigation of space launch mishaps, the NTSB (if they participate), USAF and the FAA agree to abide by the rules in this NPR. Information collected by or for a NASA Safety investigation may only be released to the NTSB, USAF or FAA during the investigation by the Mishap Investigation Board (MIB) Chair, with the consent of the Chief, SMA. If NASA safety investigators discover a critical safety concern applicable to commercial launches, that information will be provided to the FAA, NTSB and USAF in accordance with this NPR. Any FOIA request, subpoena, or other request for safety information protected by NASA safety privilege that is directed to the FAA, NTSB or USAF personnel will be referred to NASA for resolution.

| TOC | Preface | Chapter1 | Chapter2 | Chapter3 | Chapter4 | Chapter5 | Chapter6 | Chapter7 | Chapter8 | Chapter9 | AppendixA | AppendixB | AppendixC | AppendixD | AppendixE | AppendixF | AppendixG | AppendixH | AppendixI | AppendixJ | ALL |

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